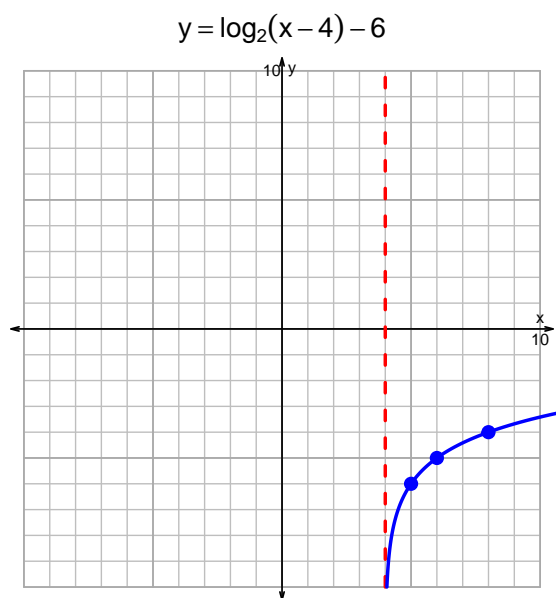
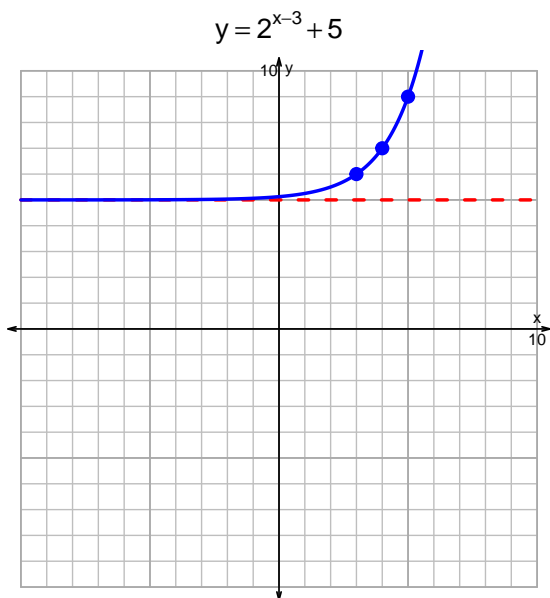


Name: _____

Date: _____

s18QUIZ: EXP LOG (SLTN v230)

1. Graph $y = 2^{x-3} + 5$ and $y = \log_2(x - 4) - 6$ on the grids below. Also, draw any asymptotes with dotted lines.



2. Write (but do not evaluate) the solution to the equation below by writing a logarithmic expression.

$$13 = \left(\frac{5}{4}\right) \cdot 2^{-3t/7}$$

Divide both sides by $\frac{5}{4}$.

$$\frac{13 \cdot 4}{5} = 2^{-3t/7}$$

Take log, base 2, of both sides.

$$\log_2 \left(\frac{13 \cdot 4}{5} \right) = \frac{-3t}{7}$$

Divide both sides by $\frac{-3}{7}$.

$$\frac{-7}{3} \cdot \log_2 \left(\frac{13 \cdot 4}{5} \right) = t$$

Switch sides.

$$t = \frac{-7}{3} \cdot \log_2 \left(\frac{13 \cdot 4}{5} \right)$$

3. An exponential function $f(x) = 0.0305 \cdot e^{-1.35x}$ is graphed below on a semi-log plot.



- a. Using the plot above, evaluate $f(0.9)$.

$$f(0.9) = 0.009$$

- b. Express $f^{-1}(x)$, the inverse of f .

$$f^{-1}(x) = \frac{-1}{1.35} \cdot \ln\left(\frac{x}{0.0305}\right)$$

- c. Using the plot above, evaluate $f^{-1}(0.6)$.

$$f^{-1}(0.6) = -2.2$$